

1 **IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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4 Inventorship Bolosky et al.
5 Assignee Microsoft Corporation
6 Group Art Unit.....2135
7 Examiner Gyorfi
8 Attorney's Docket No. MS1-735US
9 Title: On-Disk File Format for Serverless Distributed File System with Signed
10 Manifest of File Modifications

11 **PRE-APPEAL BRIEF REQUEST FOR REVIEW**

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21 **REMARKS**

22 The Pre-Appeal Panel (hereinafter "Panel") is respectfully requested to
23 consider this Request, which is submitted in accordance with the Pre-Appeal Brief
24 Conference Pilot Program rules. A summary of the rejected claims rejected is
25 provided in the Office Action dated October 20, 2005, on pages 9 and 10 thereof.
26 The Panel is requested to reconsider the rejections of record in view of the
27 following remarks.

28 **Rejection of Claims 1-4**

29 The most recent Office Action dated October 20, 2005, as well as previous
30 Office papers, argues that the limitations "collecting the changes that are made to
31 the certain files stored in the distributed file system; and digitally signing the

1 changes in batch” are disclosed at column 10, lines 50-65 and column 11, lines 1-
2 10, respectively, of *Moulton*. (Office Action, page 3). The quoted subject matter
3 is set forth in claim 1 of the present Application. Nowhere in the cited portion of
4 *Moulton* is there any discussion of digitally signing, in batch, changes made to
5 certain files stored in a distributed file system. The absence of discussion or
6 teaching of these limitations in *Moulton* is admitted by the Office in subsequent
7 sections of the Office Action. For example, on page 5, the Office states “[t]he
8 combination of Moulton and Burns do not teach digitally signing the hash value of
9 the group of hashes.” On page 8, the Office notes that “Moulton is silent
10 regarding a digital signature covering at least part of the representations to indicate
11 that the modifications were made by a user with the signature.”

12 Until this clear discrepancy is rectified, the Applicant respectfully submits
13 that the current rejection in view of *Moulton* is improper and should be withdrawn.
14 More specifically, *Moulton* cannot anticipate claims 1-4 when the disclosure of the
15 patent does not teach the subject matter of the claims, and when the Office admits
16 this fact in on the record. For the Panel’s convenience, the Applicant has
17 discussed column 10, lines 50-65 and column 11, lines 1-10 of the *Moulton* patent
18 on page 10 of the Response filed December 2, 2005.

19 **Rejection of Claims 9-16**

20 The Office argues that *Moulton* teaches the “computing,” “collecting,” and
21 “computing” acts set forth in claim 9. The Office asserts these acts are disclosed
22 at column 11, lines 1-10, element 310A of Fig. 7, and element 404 of Fig. 5.
23 (Office Action; page 5). Applicant disagrees.

24 Column 11 (lines 1-10) and Fig. 7 describe pieces 306 of a computer file
25 (File A) and corresponding hash values 310 both before and after editing a

1 particular piece of the File A. *Moulton* explains that an edit of the File A may
2 produce a change in the file pieces. An example of this is represented in Fig. 7 as
3 changed piece A2-b of file pieces 306A. When this occurs, the hash values that
4 correspond to the changed file pieces must be updated. Therefore, *Moulton*
5 discloses a process for producing an updated record 404A (Fig. 5) that includes the
6 modified hash value of File A and an update of the particular hash piece that was
7 modified as well (shown as hash A2-b).

8 Indeed, *Moulton* teaches accounting for modifications that may occur to a
9 single file, and updating hash pieces of that file after a modification occurs.
10 However, there is nothing in the *Moulton* patent that teaches or suggests
11 “computing a hash value of each modified encrypted file; collecting the hash
12 values into a group; [and] computing a hash value of the group.” At most,
13 *Moulton* describes a system and process capable of creating a directory of hashed
14 files, such as the File A described above, and accounting for changes in those
15 hashed files. But the concept of creating a single hash value for a group of hash
16 values of encrypted files is not taught or even remotely suggested.

17 The disclosures of *Burns* and *Chan* fail to make up for the deficiencies
18 discussed above in relation to *Moulton*. For the Panel’s convenience, the
19 Applicant has discussed additional deficiencies of the obviousness rejection of
20 claims 9-16 in the Response filed October 20, 2005. The Panel is encouraged to
21 review the last two paragraphs of page 13.

22 Turning to claim 14, for the reasons given above in connection with claims
23 1 and 9, *Moulton*, *Burns* and *Chan* do not teach or suggest the features in claim 14.
24 More specifically, the limitations of claim 14 that recite: “modify individual files
25 stored in a serverless distributed file system; compute a hash value of each

1 modified file; collect the hash values into a group; and digitally signing the group
2 of hash values.” Therefore, the Panel is respectfully requested to reconsider and
3 withdraw the rejection of claims 9-16 under § 103(a).

4 **Rejection of Claims 17-18**

5 A detailed discussion of *Moulton* is provided on pages 10-13 of the
6 Response filed December 2, 2005. For brevity, that discussion will not be
7 repeated herein. The Office asserts *Chan* teaches the application of “a digital
8 signature covering at least part of the representations to indicate that the
9 modifications were made by a user with the signature,” as set forth in claim 17. In
10 particular, the current Office Action refers to column 4, lines 4-10, of the relied
11 upon patent. The indicted excerpt from *Chan* discloses that a manifest may be
12 input into a one-way hash function to reproduce a resulting digest. That digest is
13 signed to produce a digital signature of the manifest, which can be used to verify
14 the integrity of the manifest itself.

15 The limitation of the claim is more robust than the relied upon teaching of
16 *Chan*. According to claim 17, not only are the “representations” covered by the
17 “digital signature,” but the signing process identifies “that the modifications were
18 made by the *user* with the signature.” *Chan* does not teach this aspect of the
19 claim. Instead, the signature of the manifest only verifies “the integrity of the
20 manifest itself.” (*Chan*, col. 4, line 9).

21 The Office has cited an article in the most recent Office Action to show
22 *Chan* is not deficient. The article is titled “Digital Signature Standard (DSS).”
23 The Office maintains that the DSS article provides evidence that “any digital
24 signature must necessarily represent the user who owns the private key used in
25 generating said digital signature.” This assertion by the Office, whether it is true

1 or not, still does not solve why the combination of *Moulton* in view of *Chan* is
2 deficient. The Office states the combination teaches “a digital signature covering
3 at least part of the representations to indicate that the *modifications were made by*
4 *a user* with the signature,” as set forth in claim 17. There is no teaching in the
5 combination of *Moulton* in view of *Chan* that discloses the use of a digital
6 signature that indicates modifications were made by *a user* with the signature.

7 Using conventional private/public key technology, a first user may modify
8 a file, encrypt the file with their private key and send it to a second user. Even
9 though the second user may be able to access the file using a proper public key,
10 the decryption will not reveal that the first user *modified* the file. According to the
11 DSS article, the private/public key technology only enables the second user to
12 ascertain the *identity* of the first user. (See Abstract; DSS article.) This is not the
13 same as being able to ascertain “that the *modifications were made by a user* with
14 the signature,” as set forth in claim 17. (Emphasis added.)

15 **Conclusion**

16 Claims 1-4 and 9-18 are in condition for allowance. Applicant respectfully
17 requests reconsideration and prompt allowance of the subject application.

18
19 Respectfully Submitted,

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